SPAWAR
Systems Center
San Diego

AOG
COE Tiger Team
Status Update

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- Note - the majority of this brief is taken from a brief presented to SPAWAR SES's and COMSPAWAR on status of the Tiger Team

- Provides an top level review of accomplishments and what we have left to accomplish

Tiger Team Objectives

- To mature the COE 4.5 baseline to a point were systems can start their formal integration, certification, operational test, and fielding process
  - Success criteria:
    - Close all pri-1/2 GSPRs
    - Full 3.X functional equivalency and all new functionality properly working
    - All stability, reliability, and performance issues addressed
  - Solaris-8 and W2K will be targeted baselines
    - HP and NT will be delivered after Tiger Team completion based on recompilation of above baselines
- Joint effort with primary participants being DISA COE, GCCS, and Navy
    - Air Force and Army have participated

What has been accomplished in your first three months of COE 4.x testing?

- **Consolidation of CM databases**
  - Provided on-site CM control of the COE Infrastructure to the TT
  - After thorough review/scrub, provided the starting baseline of problems to be addressed by TT
- **Effective on-site interaction of test and development teams have**

  lead to a more efficient identification and closure of problems
  - Balancing act to leverage assets to support weekly software updates

    (12 to date)
    - TT Eng Rel. #2 posted 1 Apr 02
  - Closures to date: Pri-1 (75/86) , Pri-2 (274/370), Pri-3/4/5/SCPs (332/946)
  - All currently identified Pri-1/2 STRs are scheduled to be corrected prior

    to EOTT
  - JPL on-site APM integration tests validated basics but identified

What has been accomplished in your first three months of COE 4.x testing? (cont)

- **Have cut through Pri-1/2 "fog" where we are now able to identify/ address underlying "system" issues using focused stress and performance tests**
  - Overall CPU rqmts greatly reduced and performance continues to improve
  - Have significantly streamlined JMV and Symplot to improve performance
  - Identified JAVA JVM related issues (poss. excess threads, garbage collection, & JVM memory leak)
  - Have validated that track distribution/replication is solid and that operator input does not appear to be a significant factor in client performance/stability
  - Have identified specific performance/CPU% issues w/ XIS/XISMI (SUN/Polexis working issues)
- **Operation Advisory Group (OAG) completed**
  - 3 primary findings: Menu organization, PC's a big plus, need to improve HCI response
- **Have developed draft "Key Performance Parameters" (KPPs) to measure success of TT effort (Exit Criteria)**

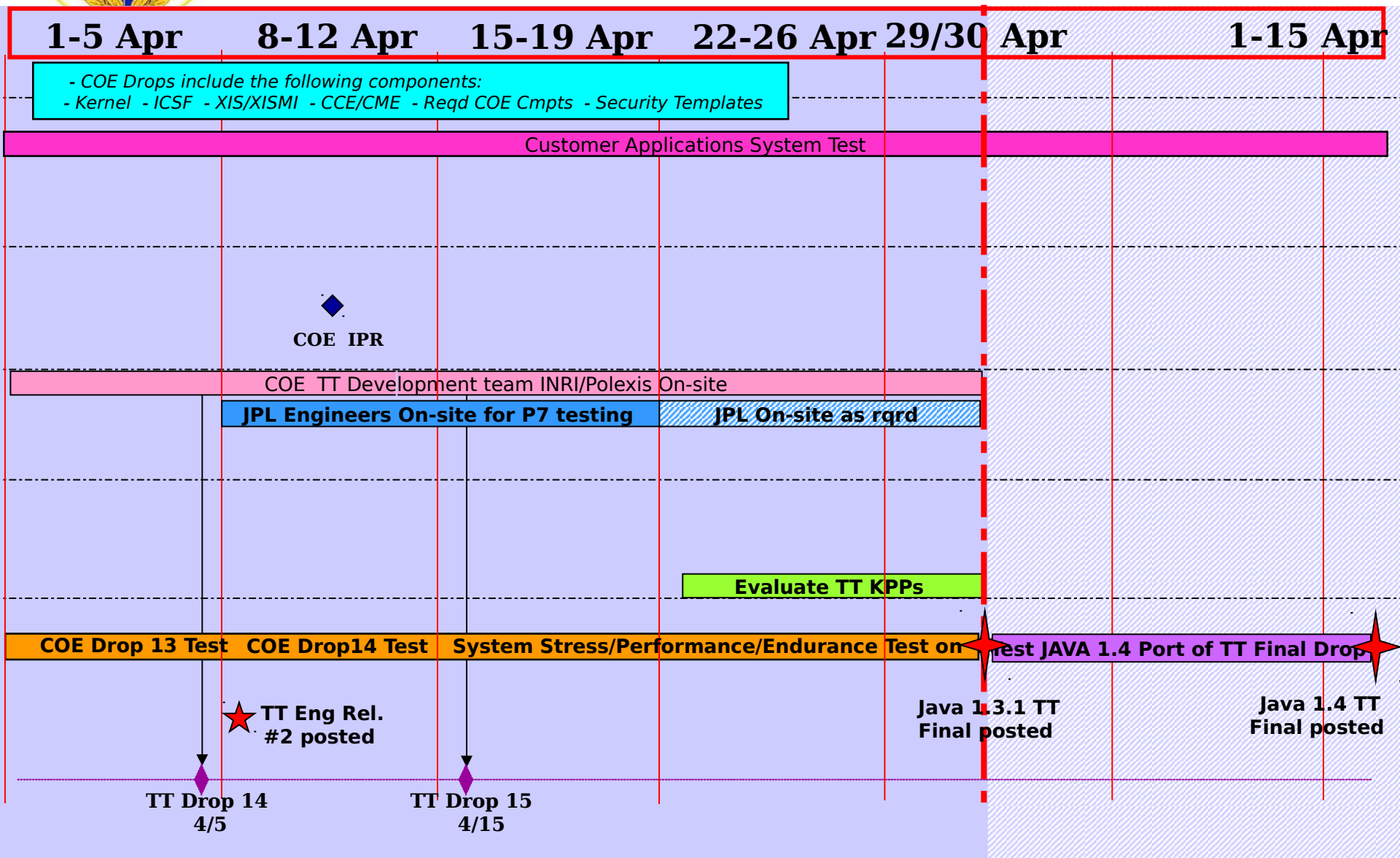
What things do you hope to accomplish in the remaining 4 weeks and what do you see as potential areas of high risk (**)?

- **Correct all remaining and newly identified Pri-1/2 STRs**
  - As of Tuesday, 11 pri-1 STRs and 96 pri-2 remaining (all assigned for dlvry by 4/15)
- **Optimize system performance to maximum extent possible**
  - Developer currently working identified performance STRs and using KPPs as checkpoint
- **Bullet-proof system using combination of stress & endurance tests ****
  - Scheduling 4hr, 12 hr, and 24 hr stress tests and 100 hr endurance run to identify any remaining problems and to validate system stability
  - Last week conducted two 4 hour and one 12 hour stress runs followed by 12 hour endurance run
    - System performance and stability initially good until CST was enable

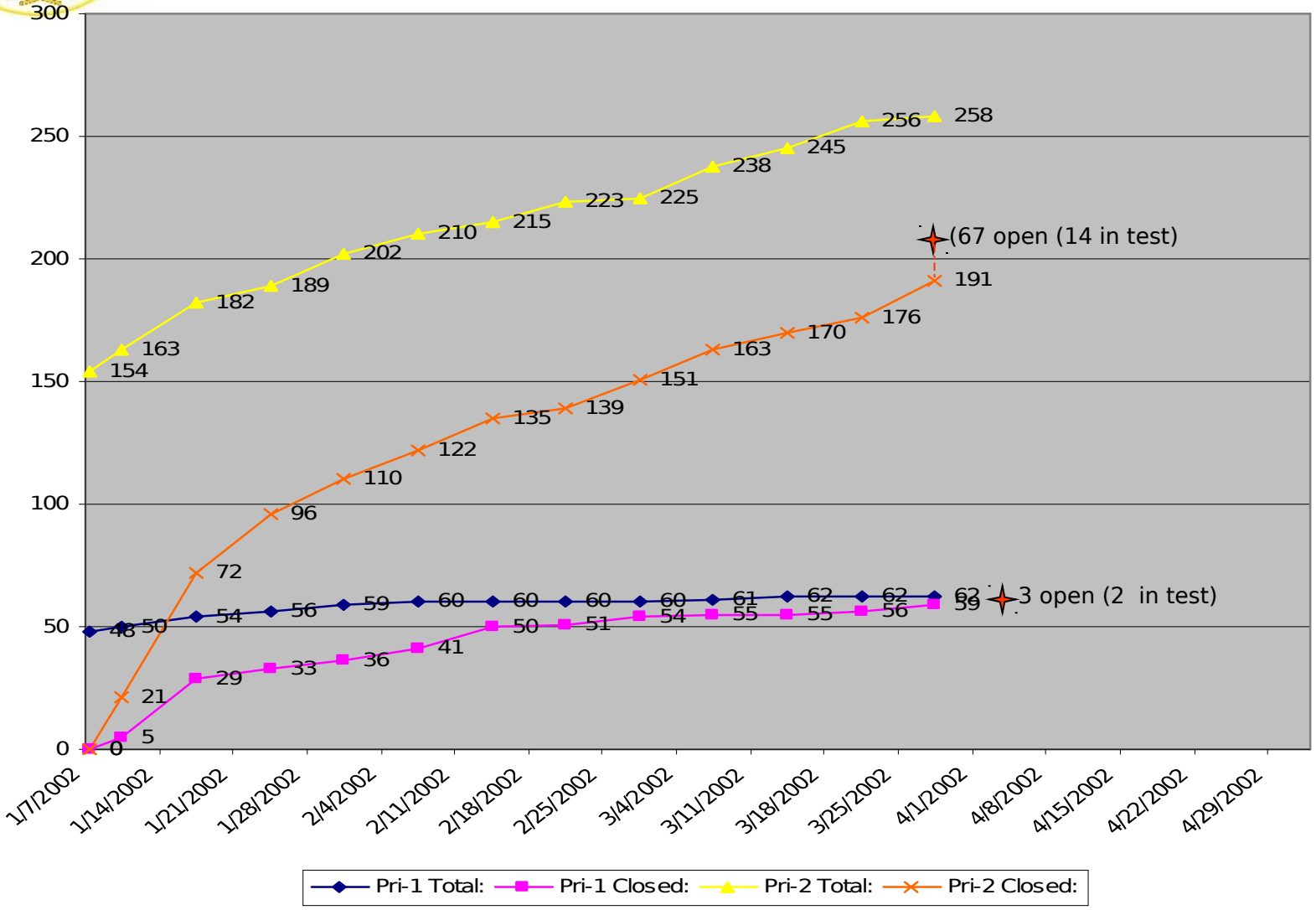
What things do you hope to accomplish in the remaining 4 weeks and what do you see as potential areas of high risk (**)?

- **Increase testing of XIS/XISMI and identify/correct issues **
  - Address performance/CPU% issues and increase testing as updated I3 Appls become available
- **Final CST delivery is post-TT **
  - Working with CST eng drops but all functionality not yet supported
    - A functionally complete 3.X equivalent dlvrd 2 Apr
  - Adds risks, but believe problems can be address post-TT in patch releases
- **Address potential JVM Related issues **
  - Address identified excessive thread, garbage collection, and memory leak problems **
  - JAVA 1.4 transition on-going w/ 30 Apr dlvry for test
    - Will complete TT on JAVA 1.3.1 to be able to use available msn appls
    - JAVA 1.4 version of SAME software will be available 2 wks later (17 May)

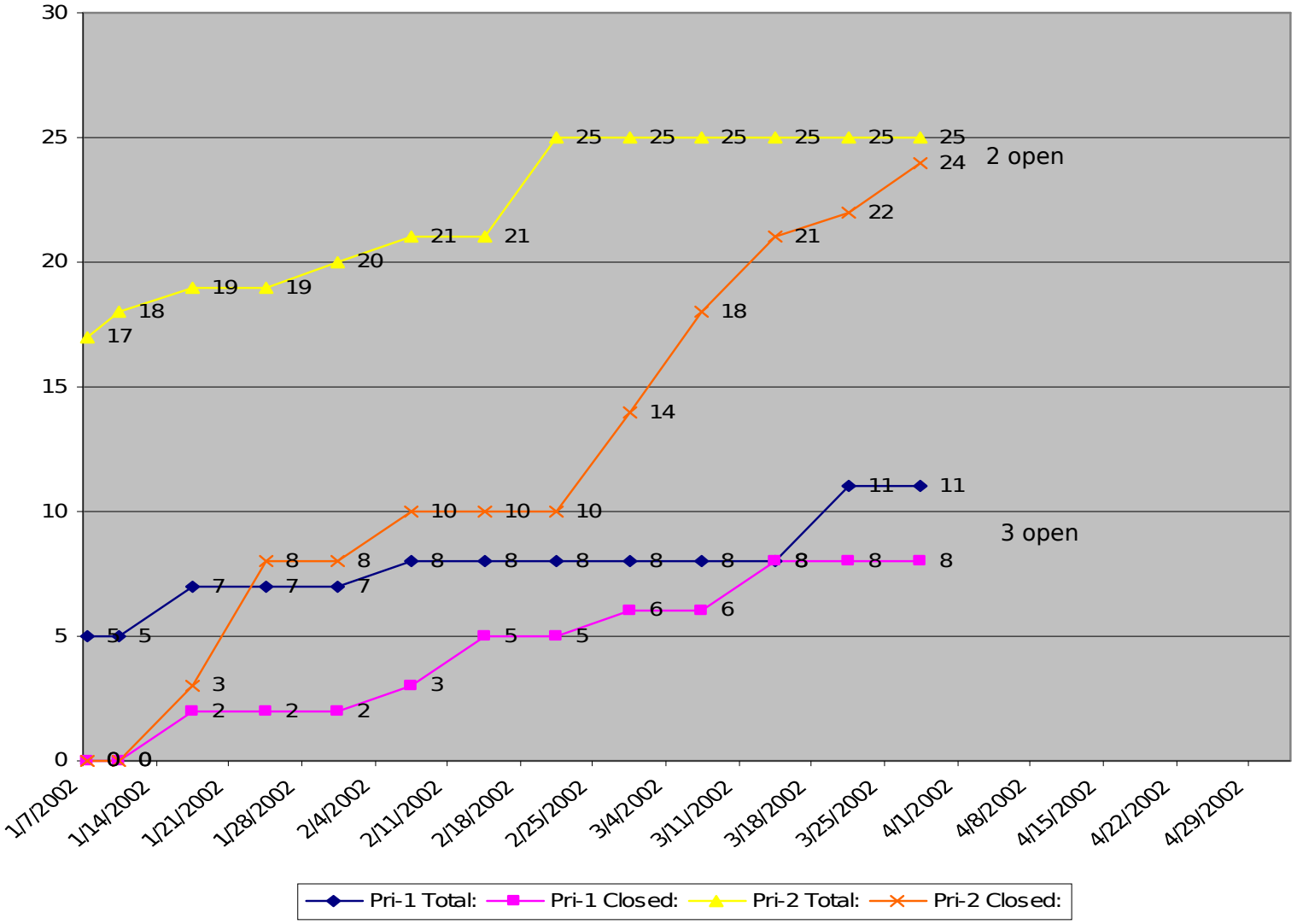
Remaining COE Tiger Team Schedule



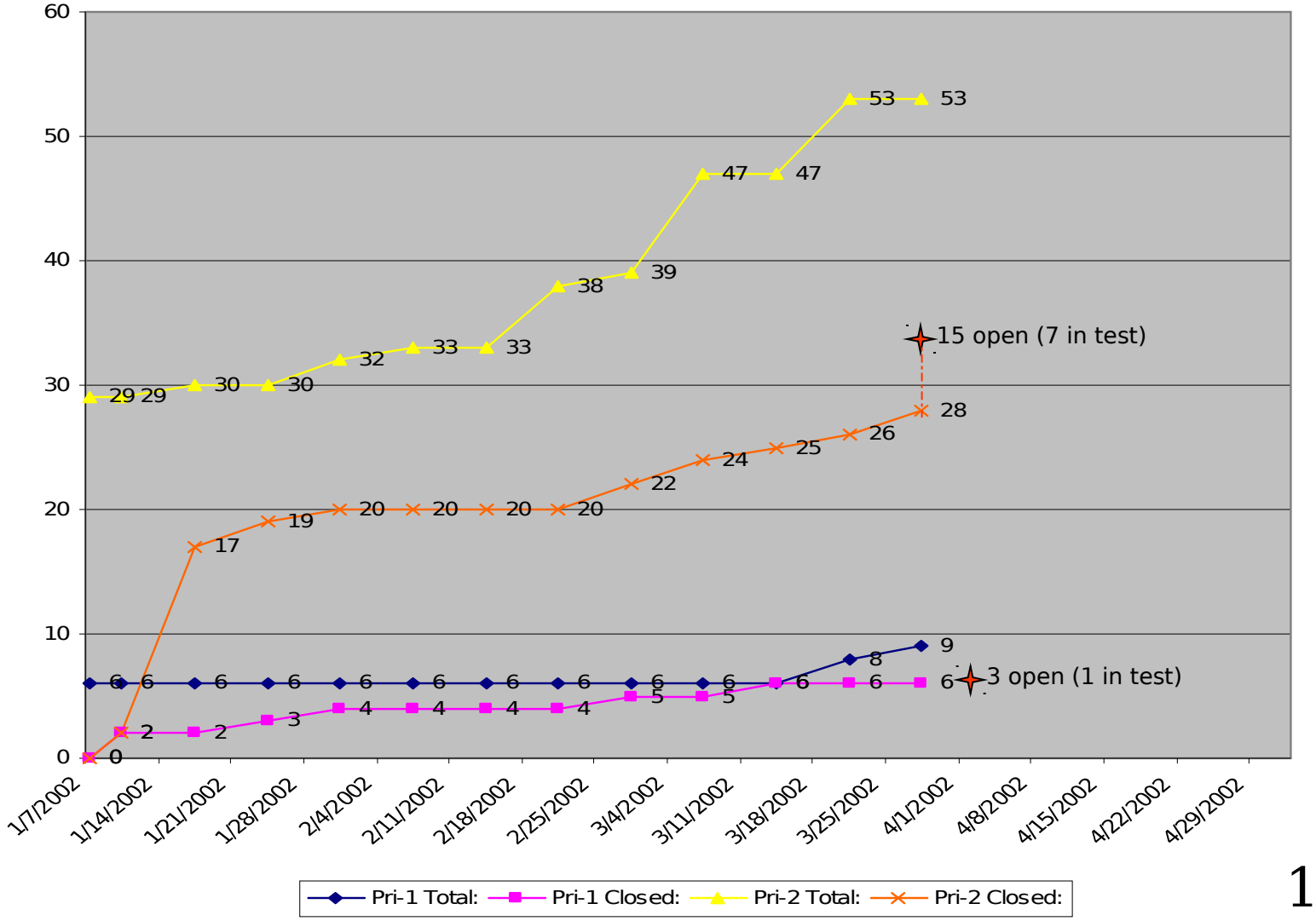
ICSF Pri-1/2 Metrics



XIS Pri-1/2 Metrics



Infrastructure Pri-1/2 Metrics



Common Appls Pri-1/2 Metrics

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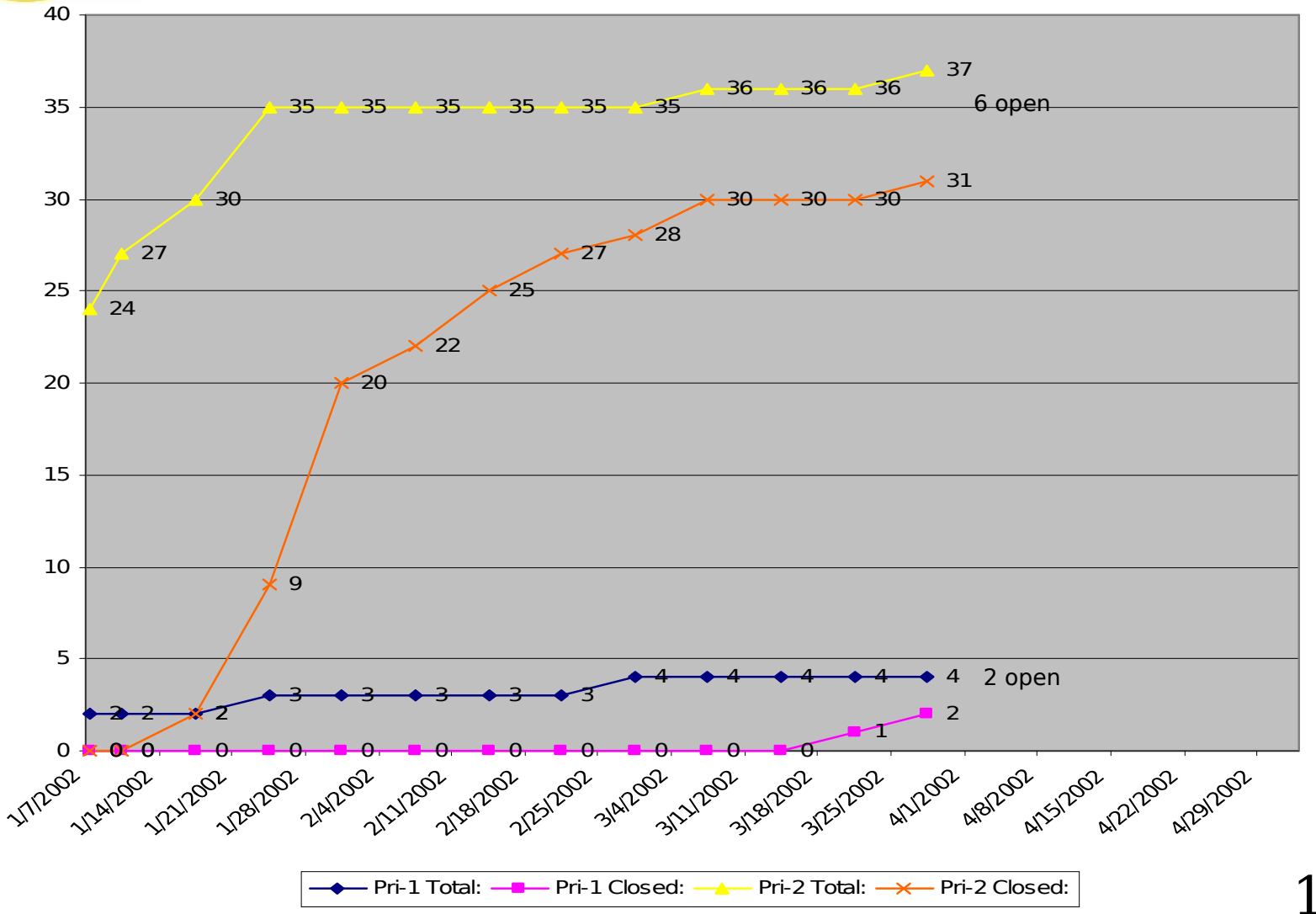
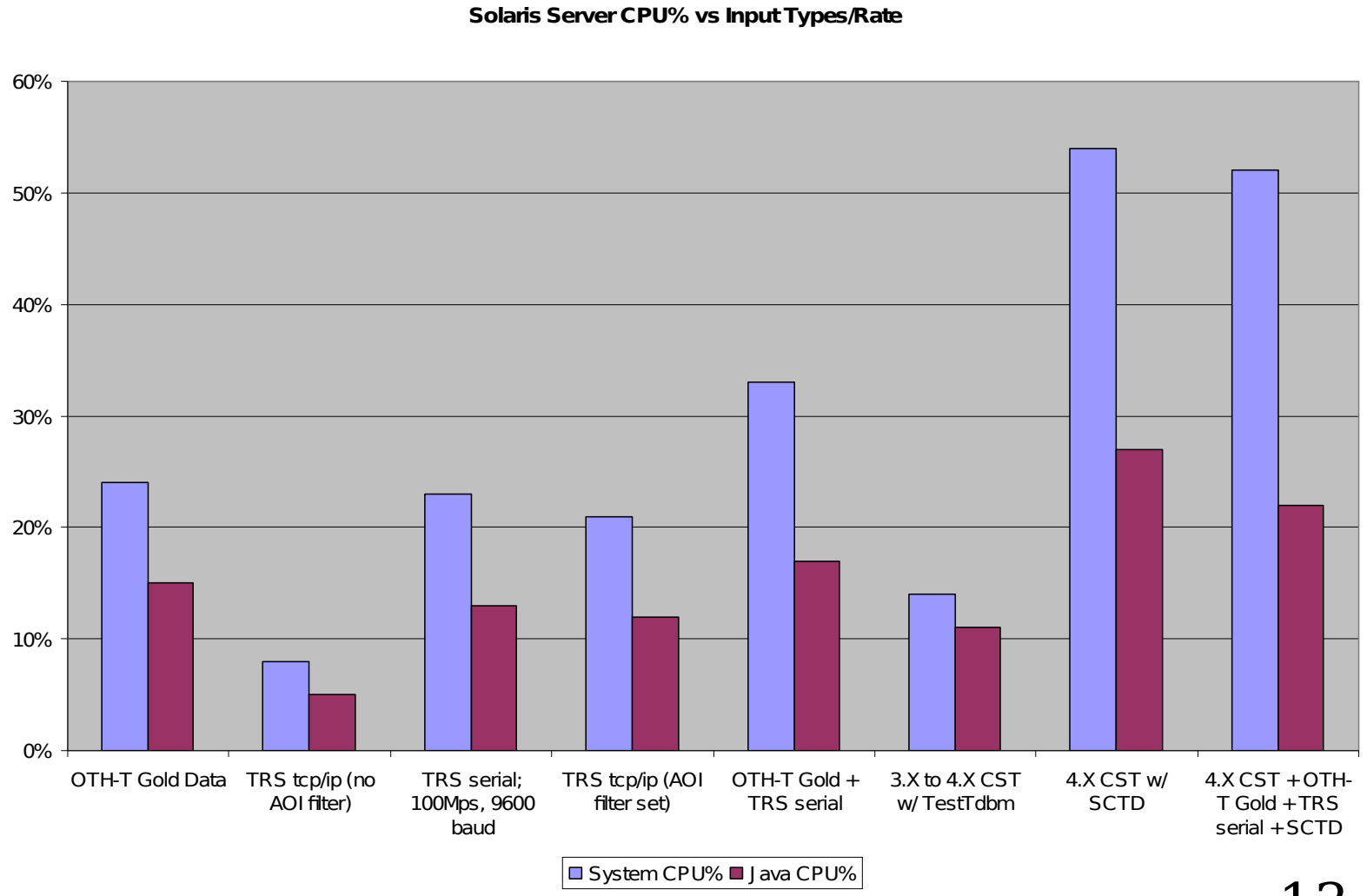
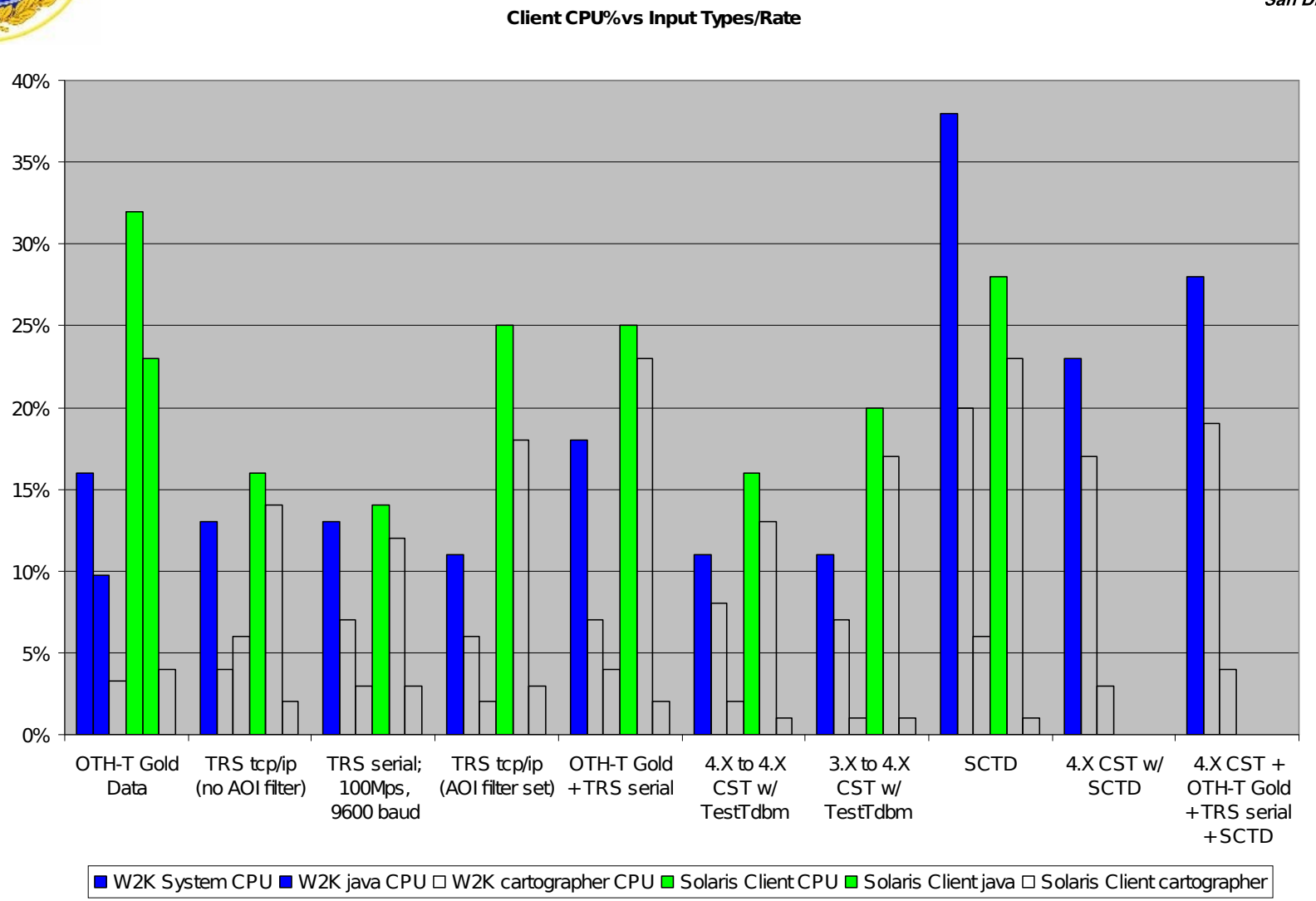


Steady State CPU Utilization – Server



Steady State CPU Utilization – Client



OAG Results

- OAG S/W base line 4.5 P2 Drop 6
- OAG results:
  - The PC w/s were a huge success in merging tactical and non- tactical functions into single platform
  - Menu organization and naming need to be address
  - User HCI is still sluggish
    - OAG build six drops behind current build
- TT leadership addressed and adjudicated OAG comments
  - In order to complete the remaining STRs, recommend deferment of OAG actions to post TT but prior to next OAG
    - Recommend June/July OAG
  - OAG comments will be inserted into the STR DB with an OAG search tag
  - Many useful HCI improvement identified that relatively easy to implement post TT

DAC / Late Bindings

- Results of discussions/telcons on subject issues are:
  - Didn't make sense to implement late bindings for Windows because restrictions w/ Unix not applicable and the LOE to accomplish
  - JPL will complete late bindings implementation for Unix only (P7 Final)
  - Concluded that systems could get by with 12 Unix groups and could allow ICSF to retain current 4 groups and have to support late bindings
  - On Unix, application of late bindings segment (dev. by the system integrator) will consolidate groups & apply associated permissions to established desired DAC configuration
  - On Windows, a similar process will be require, but instead of a late bindings segment, a secondary "DAC_implementation" can be applied to set the required permissions. This segment would use the MSI provided cacls.exe/xacls.exe to accomplish required settings
  - JPL has provided draft DO's & DON'TS guidance to support above
  - Systems have been asked for segment "group" usage info to facilitate giving group rqmts and to allow systems to provide definitive guidance on groups to use (especially an issue for common segments)

What's left ….

- Complete DAC/late bindings coordination efforts
- Deliver final TT drops (5 & 15 Apr)
- Complete validation of all STR corrections
- Continue aggressive test schedule to include stress, performance, and endurance test
- Validate accomplishment of KPPs
- Identify any outstanding issues that must be addressed post-TT
- Post TT Java 1.3.1 pre-final release on 30 Apr
- Conduct testing of Java 1.4 equivalent of above and deliver TT "Final" release to COE Eng on 17 Apr for inclusion in COE 4.6 delivery
  - Will be posted on ftp site on 17th also